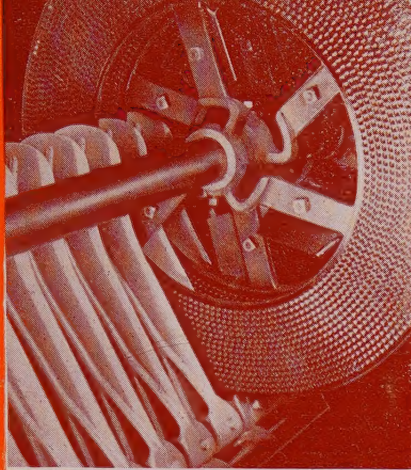
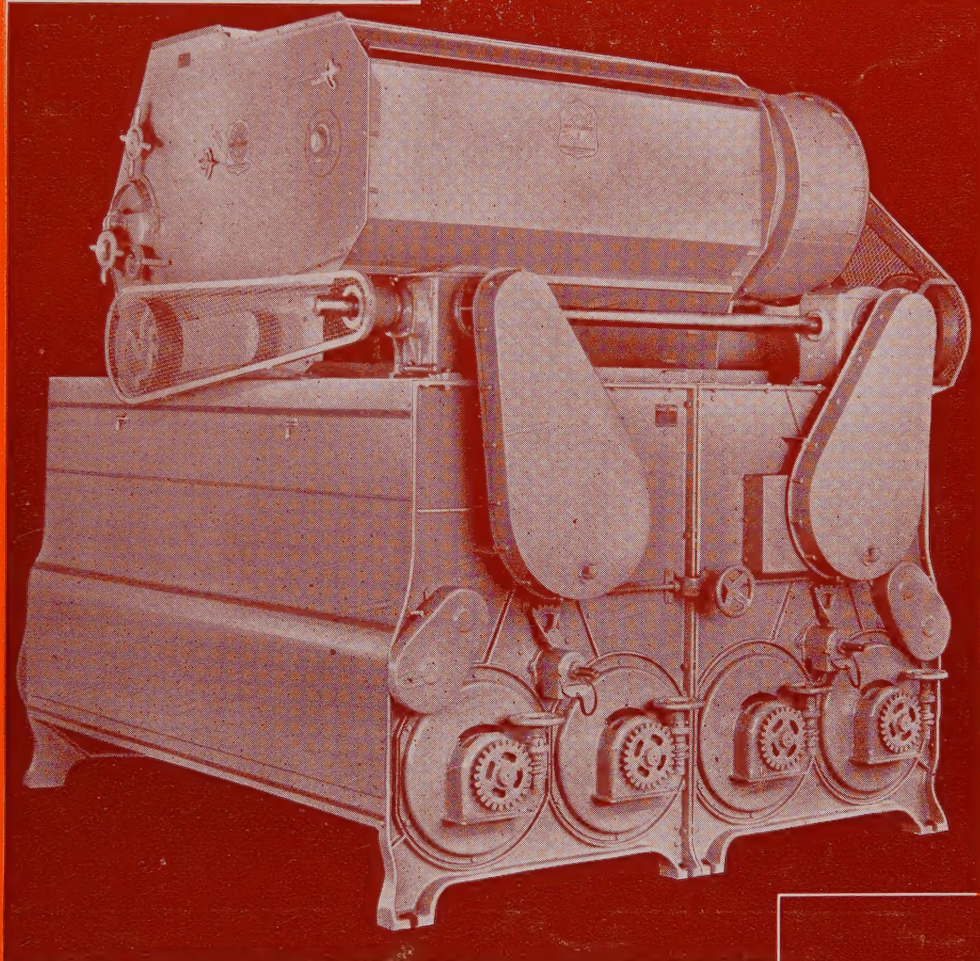


# **G** **ELEVATOR** **R** **OPERATION** **A** **AND** **I** **MAINTENANCE** **N**

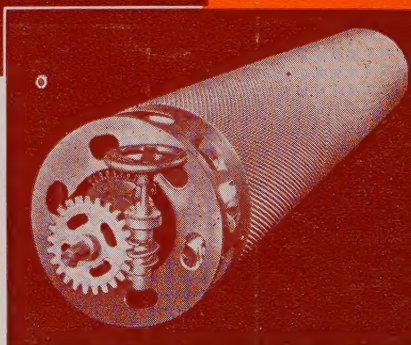


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Carter discs combined with Hart indented cylinders — unerring accuracy combined with widest flexibility — high capacity combined with unusually low operating costs — that's what you get when you install a terminal-size Carter Disc-Cylinder Separator! It is a complete cleaner performing five major separations plus scalping and aspiration. In one operation at big capacity this great cleaner will clean and grade by length barley, wheat, durum, rye and oats. Compact, simple in operation and outstanding in construction it is a truly remarkable value in terminal elevator equipment! Write for details and catalog folder today!



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**HART-CARTER COMPANY**  
 706 NINETEENTH AVENUE N. E., MINNEAPOLIS, MINN.

*September  
1938*



## *To The Readers of Grain:*

Realizing the value of the magazine "GRAIN" in the operative field of Grain Elevator Superintendents, I am wondering if it might not be timely to urge receiving elevators, and even loading houses, to intercept destructive objects coming from cars or bins.

Frequently we run into a great deal of unloading delay, and consequent expense, through our marine legs picking up heavy material, such as pieces of car boards, spikes, bolts, iron pipe, chain and chain hooks, wrenches and tools of various kinds, and sundry other articles, which lie unseen until some damage occurs, or they accumulate in our inner lofting boots. The time lost, and expense incurred in repair and replacement of damage, runs into a lot of money annually. Serious delays ensue to vessel and elevator.

Notwithstanding material damage there is a much greater hazard ever lurking, that of explosion and fire, by such debris coming into contact with speeding machinery or even stationary casings, etc.

We believe your magazine to be an excellent utility to spread a warning, and to extend an appeal, to elevator employees to 'side track' such destructive foreign material as it comes from cars or otherwise through the elevators.

Wishing you every success in your valued work and in anticipation of your considering and acting on the above suggestion, all to our mutual benefit, we are

Yours very truly,

(signed)

G. L. PARSONS, President

The Goderich (Ont.) Elevator & Transit Company Ltd.

*A survey conducted by "GRAIN" brings to light the following comments by Lake Michigan and Lake Superior Supers:*

*The conditions referred to by Mr. Parsons are laid solely in the lap of the vessel crews, most supers claimed, because of carelessness in cleaning holds prior to loading. Catwalks and ledges are chiefly responsible as hiding places for forgotten tools, debris, etc.*

*The construction of modern elevators makes impossible the inclusion of heavy foreign objects in grain, due, mostly, to gratings on hoppers throughout the plant.*

*Rigid supervision by local, state and federal authorities preclude the possibility of grain streams running on board contaminated by foreign objects.*

*"GRAIN" suggests that FULL COOPERATION between Supers at the shipping and receiving ends CAN be attained by the loading Super exercising ADDITIONAL diligence in INSPECTING EMPTY HOLDS.*



# Editorial

By DEAN M. CLARK

## HE KNOWS GRAIN

Of a Super it is sometimes said: "He is a great executive." Or it may be: "He maintains his plant in finest condition." Or yet: "He is a grand safety man; has not had a lost-time accident in four years." Accolades all, and sweet sounding to the Super who merits them. It seems to be taken for granted that *he knows grain*.

But how does a Super judge a Super?

Let us suppose the head of the Northern Elevator is discussing the head of the Western Elevator:

"A fine chap," says he. "Knows more about wheat classes than any man-jack in the country. . . .What? *Of course* he's a great executive!"

Or it may be: "Super of the Northern? You bet I know him. He's the favorite son of the malsters by virtue of the way he handles barley. . . .Maintenance? *Naturally* he keeps his plant up 100 per cent!"

Or yet: "The Central's Super? Say what that chap doesn't know about soybeans just hasn't been discovered. . . .Safety? *Why, sure*, he has a perfect safety record!"

It seems to be taken for granted that a Super knows how to operate a plant.

After all, grain is the foundation upon which is built the whole fabrication of the industry, and without a fundamental knowledge of all the factors and conditions entering in to grain handling, a Super would be just another employee.

Certainly, the Super is an executive; most assuredly, he maintains his plant properly; indubitably, he practices safety; but, first and foremost, he knows grain!

## GRAIN

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# Static Strategy

By C. J. Alger  
Corn Products Refining  
Company, Chicago

The term "Static" is here used in its commonly accepted meaning, namely, the type of electrical charge resulting from friction or similar cause and particularly where it constitutes a fire or explosion hazard.

The generation of static can neither be prevented nor is it practicable to attempt to do so. Its generation is not in itself a hazard. The hazard appears when static accumulates to the extent that a spark discharge may occur. Where such a spark discharge occurs in accumulations of flammable materials, it may cause a fire or explosion. Eliminating the static therefore calls for preventing its accumulation rather than its generation. Humidification, grounding, and neutralizing prevents the accumulation, but in no way prevents the generation of static.

Experience has shown that static is a more acute hazard in the winter than in the summer months. In winter the relative humidity indoors is low, which tends to dry all surfaces and make them poor conductors. Consequently, the static which is generated accumulates on the generating surfaces until the potential is high enough to break down the intervening air gap with a resultant spark.

In summer, however, the relative humidity is high, and as a result, all surfaces are usually covered with an invisible film of moisture which makes them relatively good conductors.

## Causes of Static

Static electricity is commonly believed to be generated only by friction, and its original name, "frictional electricity," is still used to some extent. Experiments, however, have proven that static is generated not only by friction, but also by the bringing together and separating of unlike substances. For example: if a sheet of glass is coated with varnish and the varnish is allowed to dry, the act of peeling the dry varnish coating from the sheet of glass will result in both substances being charged with static. In the case of a belt and pulley,

## STATIC

*Due to the phenomena of static electricity very little has been written on the subject, except that it is caused by friction of various dry (and sometimes wet) materials, which when conditions are right will build up a potential high enough to "jump" to the nearest grounded material sometimes with quite an arc. Some materials are known to build up a positive potential, while others negative. A positive static charge will only discharge to a negative body and vice versa.* — Gilbert P. Lane, General Superintendent, Arcady Farms Milling Company, Riverdale, Ill.

\* \* \*

*Our experience would indicate that elimination and control of static electricity in grain elevators has not been particularly difficult to handle. We have found that the more modern type steel and concrete constructed plants having steel concentrator and carrier rolls on the conveyors are much less susceptible to static discharge than the older type of wood construction. This, of course, is due to the fact that the entire concrete and steel structure is permanently grounded while the wooden structure would not be grounded unless by special ground wires.*

*I judge from your letter that many are experiencing difficulty with static particularly around cleaning machines, and I am wondering whether or not the spouting feeding these machines from the bins above are non-metallic. In our experience we have found that spouts so constructed have presented somewhat of a problem with regard to static discharge.* — James G. Hayhoe, Warehouse Division, Cargill, Inc., Minneapolis.

the belief that static is generated by the slight slipping of the belt on the pulley has been disproved by substituting a loose pulley for one which is carrying a load. Under these conditions, although there is no slip between the belt and pulley, as much static will be generated as with a pulley carrying a load.

It is not necessary to expand on any of the numerous theories which have been advanced on the generation of static, but to be content with the fact that under certain conditions it is generated and to stress the method of preventing its accumulation.

Static electrical charges are generated on power transmission belts in three ways: (1) the friction of the belt on the pulley; (2) the separation of the belt from the pulley; (3) to a less extent by the friction of the atmosphere on the belt. On conveyor belts the charges are generated in addition by friction of the conveyed material on the belt. If the machine is electrically grounded, a charge will remain only on the belt. If the machine is insulated from the ground, its potential gradually will build up as additional charges are generated on the pulley. The rate that the potential builds up on the machine depends upon such factors as the electrical capacity of the machine and the atmospheric conditions surrounding it.

## Preventing Accumulation

The manifestations of static in connection with power transmission machinery are pronounced especially in connection with belts and pulleys. Very long sparks, in some cases as long as six inches, are often discharged. Such spark discharges in the presence of flammable materials are acute hazards.

Probably the most common method of preventing the large accumulation of static in connection with belts and pulleys has been to provide a grounded comb placed near the surface of the belt and designed to collect the static as it is formed.

Another very effective method of preventing the accumulation of static on



belts and pulleys is to apply at frequent intervals a material which will make the surface of the belt a conductor of electricity. By doing this, the static which otherwise would accumulate on the belt is led to the pulley, which is grounded.

Bearings in line shafts, due to the oil film, are very often not of low enough electrical resistance to properly ground the shaft. In such cases, use must be made of grounded brushes or wipers on the shaft itself.

In many cases the static hazard can be eliminated during the design of the plant and the selection of equipment to be used. Individually driven units eliminate the belt and pulley hazard. Such installations frequently result in improved illumination.

Chain drives, used instead of belt drives, will eliminate the static hazard and are advised where possible by the National Fire Protection Association.

Where belt drives must be used, the static hazard can be lessened by decreasing the speed of the belt and increasing the size of the pulley.

When it is impractical to humidify the air sufficiently to reduce the accumulation of static — such as in an elevator — it is imperative that all metallic objects be electrically grounded. If the equipment consists of a number of metallic parts insulated from each other by non-conductors, it is generally desirable to connect all metallic parts with heavy copper wire and ground the system with one common ground wire.

### Methods of Grounding

In the handling and processing of materials where dust is created, many different types of equipment are used. Satisfactory methods for electrically grounding the more common types of equipment are given below.

#### Aspirators

In the centrifugal type, all metallic parts which include the cones, fan and rotor shafts, hopper, fan housing, and conveyors, should be electrically connected and grounded. In the gooseneck type aspirators, the conveyors, fan shaft and metal lining should be connected and grounded.

#### Bins

Metal flour bins, feed bins, tempering bins or grain bins and metal thimbles or manholes in the roof slab of concrete bins, and metal gates or spouts at the bottom of such bins should be grounded. In wooden bins, all metal in the form of lining, tie

rods, ladders, gates or spouts or in any other form should be grounded.

### Cleaners

Grain cleaners of the all-metal type



*Here's what happens when that fatal spark "gets loose." The views are of the Pillsbury Elevator of the Andrews Grain Company in Minneapolis and depict the slow and tedious task of salvaging — which in this case took the crew, headed by Ed Raether, President of the Superintendents' Society, and Myles Kane, over four months to complete.*

usually require nothing more than the grounding of the frame to provide reasonable protection against static. Cleaners of the metal-clad type also require the grounding of the frame, but the machine should be checked to make certain that there is continuous metallic connection between the metal covering of the frame and the screens, eccentric shaft, fan shaft or other parts.

In the case of wooden cleaners, all the metal parts which are exposed to contact with belts, stock or dust laden air should be bonded and grounded. Bonds may be satisfactorily applied to shafts simply by making a connection to one bearing on each shaft. Fan casings and other fixed sheet metal parts should have their bonds securely attached by means of screws or bolts. Bonds for the screens and other movable parts should be connected together and bonded to the stationary metal parts through eccentric connecting rods or metal sieve supports. Where metal scrapers are used, they often provide a convenient means for making a bonding connection to the screens.

Cylinder cleaners of the wood-frame type may be satisfactorily protected by bonding together all cylinder shafts and other metal parts, and grounding the system.

### Conveyors

All parts of pneumatic conveying systems are usually of metal construction and may be readily grounded. Screw conveyors of the all-metal box type are in the same class. In the wooden box type, both the metal lining and the worms should be grounded. The head and tail pulleys of belt conveyors, together with the idler pulleys, frames, and loading and discharge spouts should be grounded.

### Dust Collectors

All metal parts of dust collectors together with the air ducts, conveyors and shafts should be electrically connected and grounded. Explosions and fires attributed to static electricity in bag-type collectors have been eliminated in some plants by sewing braided copper wires along the lengthwise seams of the bags and grounding the wires to the shell of the collector.

### Elevator Legs

In metal elevator legs, head, boot, leg casings, head and boot pulleys, and elevator cups should be grounded, according to the National Fire Protection Association. All except the head pulley and the buckets may be grounded by attach-



ing the ground wire to any portion of the exposed metal. Head pulleys may not have direct metallic contact with the metal head, and the head shaft should, therefore, be separately grounded.

In wood legs, it is important that the head and boot pulleys and the buckets be grounded, and where metal heads or boots are used in connection with wood (or concrete) legs, such metal parts should be grounded also.

Elevator legs present some of the most difficult problems of grounding found in a grain handling plant, and probably involve some of the greatest static hazards. Grain discharged into the boot may be highly charged from friction on belt conveyors or in spouting, and this charge may be accumulated on the metal buckets as the grain is scooped up. The buckets are insulated by the cup belt, and may carry their charges all the way up to the head pulley. If the head pulley is lagged, the charge on the buckets may be increased by belt friction, and carried down the back leg until the buckets come within flashing distance of the metal boot pulley. Anywhere in the course of travel of the buckets in the legs, there is a possibility of sufficient belt slap to bring the buckets within flashing distance of the leg casing. The normally dusty atmosphere inside the leg makes the occurrence of such sparks or flashes extremely dangerous, and it is probable that a surprising number of the frequent leg explosions have their origin in static sparks.

The first step in protection of a leg is effective grounding. All-metal legs in concrete houses **should** be grounded. All spouting, shafting, or other metallic material in the vicinity of the legs should be bonded to the leg.

### *Buckets Present Difficulty*

The problem of grounding the buckets inside the leg is the most difficult to solve. In some cases, boots are fed from the back or at a point near the bottom of the front side in such a manner that the buckets are entirely clear of the grain before contact between the bucket bolts and the metal boot pulley is broken. In such cases, it is probable that any static accumulation on the buckets will be drained to the boot pulley. Where buckets do not emerge from the grain before contact between bolts and boot pulley is broken, there is danger of static on the buckets, and the problem is one of grounding the buckets continuously until they have emerged from the grain.

In this connection, there is a possibility

of aggravating the hazard by the attempt to eliminate it. As an illustration, a metallic roller or brush arranged to make contact with the buckets after they had left the face of the boot pulley might cause a spark or flash at the approach of each bucket, and such sparks at a point where dust is normally in suspension would be highly dangerous. Any arrangement for grounding the buckets must make contact with the buckets before they leave the face of the boot pulley,

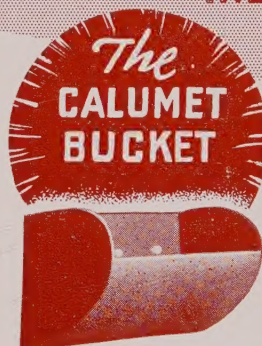
and must maintain continuous contact until the buckets are entirely free of grain. A similar arrangement is also necessary at the head pulley.

It has been suggested that the hazard of static accumulation on elevator buckets can be eliminated by bonding all of the buckets together and making certain that the boot pulley is grounded. Light flexible woven copper ribbon may be used for bonding and may be installed simply by loosening the bucket bolts, stretching

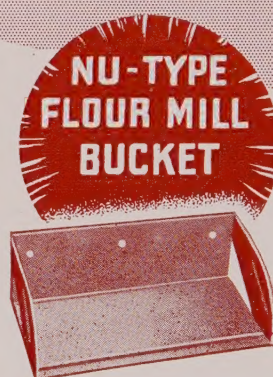
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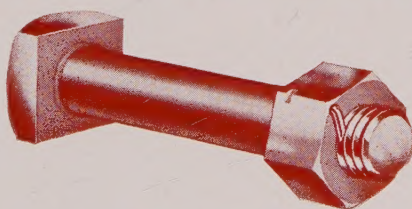
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the ribbon along the belt under each bucket, and then tightening the bucket bolts again. Care should be taken to make sure that all of the buckets make contact with the ribbon, and that the ribbon is continuous throughout the length of the belt. Continuous grounding of the buckets is thus maintained through contact between successive bucket bolts and the boot pulley. On the other hand, however, is the question of whether such copper ribbon would not introduce a new and worse hazard.

### *Spouts*

Metal spouting is usually connected to metal elevator legs or metal conveyors in such a manner that the various sections of spout are bonded and grounded, but this should be checked. Where there are joints of wood or other insulating material in metal spouting, suitable bonds should be placed around such joints.

Wood spouting usually is lined with metal, and this lining broken at joints or angles in the spouts or at connections to machinery. Such isolated sections of metal lining may accumulate dangerous static charges and it is very important that they be bonded and grounded.

When new spouting is being installed, and often in old spouting, the sections of lining may be connected together with metal strips. Where this cannot be done conveniently, nails to which bond wires are attached may be driven through spout and lining and tightly clinched against the lining on the inside. At least two nails should be used for each such bonding connection, and the bond wire should be wrapped around each nail twice before the nail is driven down tight. Narrow copper ribbons applied in this manner on the outside of spouts will prove convenient as bonding conductors. In some cases, it will be found possible to stretch a copper wire through the lining, but this method is not recommended for general use because of the difficulty of maintaining permanent connection.

### *Belt Lacings*

An endless belt unquestionably is stronger and no doubt offers a lesser hazard than a belt joined with a metal lacing or fastener or one that is laced with rawhide or leather thong. All belts are more or less of a hazard as is any moving piece of machinery. Endless belts have caused injury and loss of life. Metal belt fasteners have also caused injury and belts joined with rawhide are equally hazardous. I might mention that a few years

ago I met a workman in a plant who had the misfortune to lose the sight of an eye because a rawhide lacing in a belt had broken and the loose end struck his eye.

I don't know that I can rightfully claim that steel belt lacings and fasteners are superior for the prevention of accidents

---

### *Wish I'd Thought of That*

---

Jimmy Watt imagined engines from a kettle full of steam;

Now we have the C. N. Railway, all because of Jimmy's dream.

Galileo dreamed of watches in a lamp above a mat,

But all I seem to think of is, I wish I'd thought of that!

\* \* \*

Gravitation came to Newton when an apple mussed his hair;

The Messrs. Wright watched pigeons fly, now our Air Force takes the air.

Mr. Franklin's kite went soaring—it put juice in every flat,

But my skull is made of wishbone. How I wish I'd thought of that!

\* \* \*

Sun Tan powder made a million, so did holes in underwear;

Chewing gum and snappy slogans, safety pins and marcelled hair;

Telephones, refrigeration, Henry's Lizzies, my straw hat—

Say, whence came the collar button? Gee I wish I'd thought of that!

\* \* \*

I'm always wishing, wishing, but I wish to wish no more;

I'm resolved to think of something, even if my brain grows sore.

Surely in my cerebellum there's a little thought whereat

I can find relief from saying that I wish I'd thought of that!

\* \* \*

Maybe when all cells are hitting at a first-class thinking pace,

Why, I'll have a chance to show 'em how they ought to run this place.

Yes, I'll make the big suggestion; I'll be hauled upon the mat,

And I'm here to say I'll tell 'em; I'm the guy who thought of that!

—Author unknown

---

and injuries other than that the finished joint—when the correct size of lacing is used and application properly made—is much stronger than a joint obtained through the use of other types or styles of fasteners. A joint that is easily broken un-

doubtedly would be a greater hazard than a strong joint. For example, about twenty years ago we had one very good demonstration of safety in the strength of an "Alligator" joint; a young man was operating an automatic punch press when, for some unknown reason, the belt slipped off the pulley and immediately became wedged in between the pulley on which it was operating and another pulley which was placed entirely too close. This wedged belt was wound around the moving shaft which acted as a windlass. The press was torn from the floor and lifted above the operator's head and when the press itself came into contact with the pulley the motor was stalled and the press held suspended in the loop of the belt. The "Alligator" joint happened to be on the underside of the press pulley, therefore it did not cause the accident but it did withstand a terrific strain; otherwise the heavy press might have been dropped on the operator.

### *Sparks, Static*

If conditions require that there be no possibility of spark and static electricity, then there is no question but that a steel lacing should NOT be used, particularly so operating over steel pulleys. For such conditions I recommend the use of lacings made of "Everdur" which is non-magnetic copper alloy suitable for the use in the manufacture of belt fasteners. Fasteners are also available made of "Monel Metal" which, although not wholly non-magnetic or non-sparking, offers little or no danger of sparks under general working conditions.

Static electricity, in my estimation, is one of the principal sources of dust explosions, so I believe it would be well to take this matter under discussion and thrash it out to everyone's satisfaction, for we all know practices vary widely. Write "GRAIN".—C. J. Alger, Corn Products Refining Company, Chicago.



### *CORN PANTS*

ATLANTIC CITY, — Did you ever see an ear of corn panting?

Well, it does, according to a report here at the spring convention of the Home Life Underwriters' Association, where representatives of 45 insurance companies are adjusting rates.

"Grain breathes," said Fred A. Benneyworth, "and the respiration results in carbon monoxide and carbon dioxide which, being heavier than air, concentrate above the grain in sufficient quantities to cause illness or death to men entering bins."



## SARANOF URGES SCIENTISTS

By S. S. Orstad, Fort William

David Saranof, Chairman of the Radio Corporation, says: "The Industry which has not learned how to employ scientists to make it new and keep it new, is doomed."

Grain folks might not agree, yet scientists have proven their worth in multitudinous other lines. New avenues for new markets for grain and grain by-products should aid everyone.



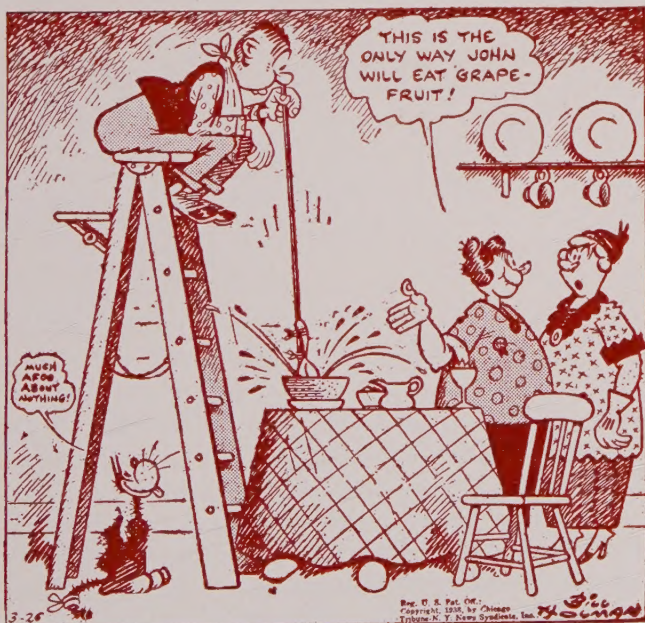
The oil and coal industries are notable examples of what the scientists have done, for coal now furnishes thousands of products. Even alcohol, formerly made from grain, and lacquers, are being made synthetically from coal and oil.

Infant mortality is very high up to the age of six months due to the protein in cow's milk acting as a poison, but now a synthetic soybean milk is decreasing that death rate. Three new plants are now under way for making a soybean base chocolate, and soybean cheese that "spreads" is a bursting field.

Wheat grinding for flour is down 47%, which leads one to hazard the guess that greater research work, such as the oil and coal people did, would lead to new and larger markets.



## OUR JOHN AT BREAKFAST



—Courtesy Chicago Tribune

# MILLIONS

of dollars go up in smoke every year—just because of

## DUST EXPLOSIONS

Terminal elevators throughout the country are protecting elevator legs from dust explosion hazards with

## ROBERTSON SAFETY VENTILATORS



For balanced ventilation of grain storage bins a growing number of elevators are using

## ROBERTSON CAPACITY VENTILATORS



For light-weight, economical, long-lived corrugated roofs and side walls of terminal buildings, use

## ROBERTSON PROTECTED METAL



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## DULUTH DUST DOES EXPLODE!

Says H. L. HEINRIKSON,  
Terminal Grain Corporation  
Sioux City, Iowa

The boys whose elevators wade in Lake Superior have consistently held that their plants are immune from dust explosions. As a matter of reflection our brethern in Ontario denied the existence of such blasts until a few less than a dozen were recalled at the Dust Explosion session the Superintendents held in Fort William-Port Arthur in 1937. Now the daily press carries another report upsetting past theories, to wit:

*"Damage estimated at about \$10,000 was caused by an explosion and fire at Elevator "K", in East End Superior, about 4:30 a. m. Sunday, September 4th. The building was damaged by the flames and the grain was soaked by water.*

*"The fire was first discovered when an explosion was followed by flames above the top of the structure. It took three engine companies an hour and a half to extinguish the fire."*

I suppose Oscar Olsen will still maintain that Duluth dust will N-O-T explode "at home"? (And say, Mr. Editor, get those boys up there to get off their swivel chairs long enough to get up and sharpen their pencils to write once in awhile!)



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## KANSAS CITY HAS EXPLOSION

A dust explosion on the scale floor of the Missouri Pacific's Kansas City elevator proved fatal to John C. Callahan, weighmaster. The fire that followed was soon brought under control with little damage. This unfortunate catastrophe occurred September 1st.



### ONE EXPLOSION A MONTH?

Asks T. C. MANNING,  
Uhlmann Grain Company,  
North Kansas City, Missouri

It seems to me that we've had about one explosion a month so far this year. Haven't all been so disastrous as some of those in past years, B-U-T here's the latest; happened September 9th at Memphis, Tennessee, - third for that state in four months:

"A dust explosion destroyed the Davis & Andrews elevator. The corn mill adjoining suffered only water damage."

Certainly there are within the ranks of the grain and processing elevator operators enough practical ideas on the actual causes of explosions to finally determine same,—and then we all can eliminate them.



### VENTS WOULD SAVE

It is my opinion that if the Canavan explosion sash equipment had been installed in the basement, as the Fleischmann Company originally intended, their recent Minneapolis explosion would have been confined to the basement and never would have raised the hoppers of the empty bins or blown off the roofs of the corresponding bins, as happened.

—M. Dwight Bell, Minneapolis.



### NEW NEED

"There is need for new knowledge on dust explosion dangers in industries and operations dealing with agricultural products," says Dr. David J. Price, chief of Engineering Research of the Department of Agriculture, Washington.

[There is, indeed, much additional study and research necessary that will bring out positive, practical, proven and pointed facts that will end this constant threat to life, business and property!]



# Safety Congress to Attract Many Supers

Accidents—North America's three and a half billion dollar parasite—will be put under the microscope in Chicago next month in the largest safety session ever held when more than 10,000 men and women from all over the world will assemble in the Stevens Hotel, October 10-14, to prepare for another year of accident fighting.

Then, with a panel of more than 500 chairmen, speakers and discussion leaders in 125 separate sessions, the National Safety Council will proceed to take accidents apart in an effort to find out why they took 106,000 lives last year and drained more than \$3,500,000,000 from the North American pocketbook. All kinds of accidents—in over fifty major businesses—will come under the scrutiny of the delegates.

Dusts, falls, occupational diseases, fire prevention, safety engineering, health, and a string of pertinent talks fill the day from 8:45 a.m. to 10 every night. Cutting accident costs is assuredly one of the most profitable advancements anyone can undertake.

## ABOUT VENTING SASH

If Supers whose lives are in momentary jeopardy from dust explosions choose to do nothing to vent these blasts, it is literally their own funeral when anything disastrous occurs to blot them out.

When operatives in the ranks look to leaders among the Superintendents for guidance and protection—and pay for their trust with their lives as unfortunately many have so far done—it looks pretty strange to us at a time when we are making no headway whatever in our own backyard that in a five year old Argentine elevator hundreds of fixed steel sash should be scrapped and Canavan welded steel sash and mechanism installed TO ENSURE S-A-F-E-T-Y.—Canny Canuck.



## FREE DUST CONTROL BOOK OUT

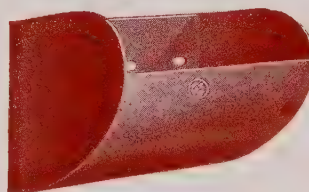
By William Feemster, Baltimore

"The Control of Dust in Grain Handling Plants" being offered by the Mutual Fire Prevention Bureau is packed with valuable information.



## FERTILIZERS RESPONSIBLE

Bill Coufield, Number One member of the Superintendents' Society, holds to his theory that the fertilizer used on farms is responsible for the disastrous dust explosion experienced by elevators. His thought is that there is a chemical combination producing spontaneous combustion.



**LOOK**

for this stamp and patent  
number on each bucket.



# THE CALUMET

(Protected by U. S. & Foreign Patents)

**We are the SOLE owners of the patent  
and SOLE Licensed manufacturers in  
the U. S. under this patent.**

We are not responsible for any data sent out by others  
purporting to be for use with the Calumet Cup.

Watch for announcement soon of a real cup for handling  
flour and other soft and sticky material.

**We handle a complete stock of Norway Flat-  
head Bucket Bolts and Spring Washers.**

## B. I. WELLER

**Sole Manufacturer in the U.S.**

327 S. La Salle St., Chicago, Ill.

220 W. Chicago Ave., East Chicago, Ind.

R. R. HOWELL & CO., Minneapolis, Minn.,  
Northwest Distributors

STRONG-SCOTT MFG. CO., Ltd., Winnipeg, Man.  
Licensed Manufacturers for Western Canada





# Just like a ...DENTIST

Concrete, like teeth, MUST be inspected and attended to regularly! Cavities MUST be repaired, cleaned with only a technicians skill, rebuilt with an expert eye towards permanently, filled with a truly lasting protective material; bridge-work must be put in where necessary — and the sooner the better and the cheaper it will be.

Nature is constantly tearing down and so both concrete and teeth must be restored as quickly and as cheaply as possible — for once deterioration has started it increases rapidly and restoration costs jump away up to reach the point where either is beyond reclaiming.

Did you ever stop to think just why you go to a dentist to have your teeth fixed? . . . "Sure" you say, "He has the necessary tools, equipment and experience with which to do a first-class job" . . . But did you ever think what would happen if you did not go to an expert to have your concrete repaired?

We have had nearly thirty years experience exclusively in the restoration and care of concrete and

**Our work is NOT cheap, — but it is lasting. The reason is the skilled man-hours involved and the quantity and quality of our materials is greater and costlier and more satisfactory. The best is the cheapest in the long run!**

busily engaged in this specialized work the year around. With the proper tools and equipment and a wealth of experience we can give you the best job and at the least expense. If you let us you can be assured of satisfactory results and a permanent job. Protect your property investment as you would your teeth from further decay — the best way!

**Do it NOW — it's NOT TOO LATE!**

Call in **BEN J. MANY COMPANY**



# TIST!

painstakingly pre-  
ent strength and, fi-  
and whenever nec-

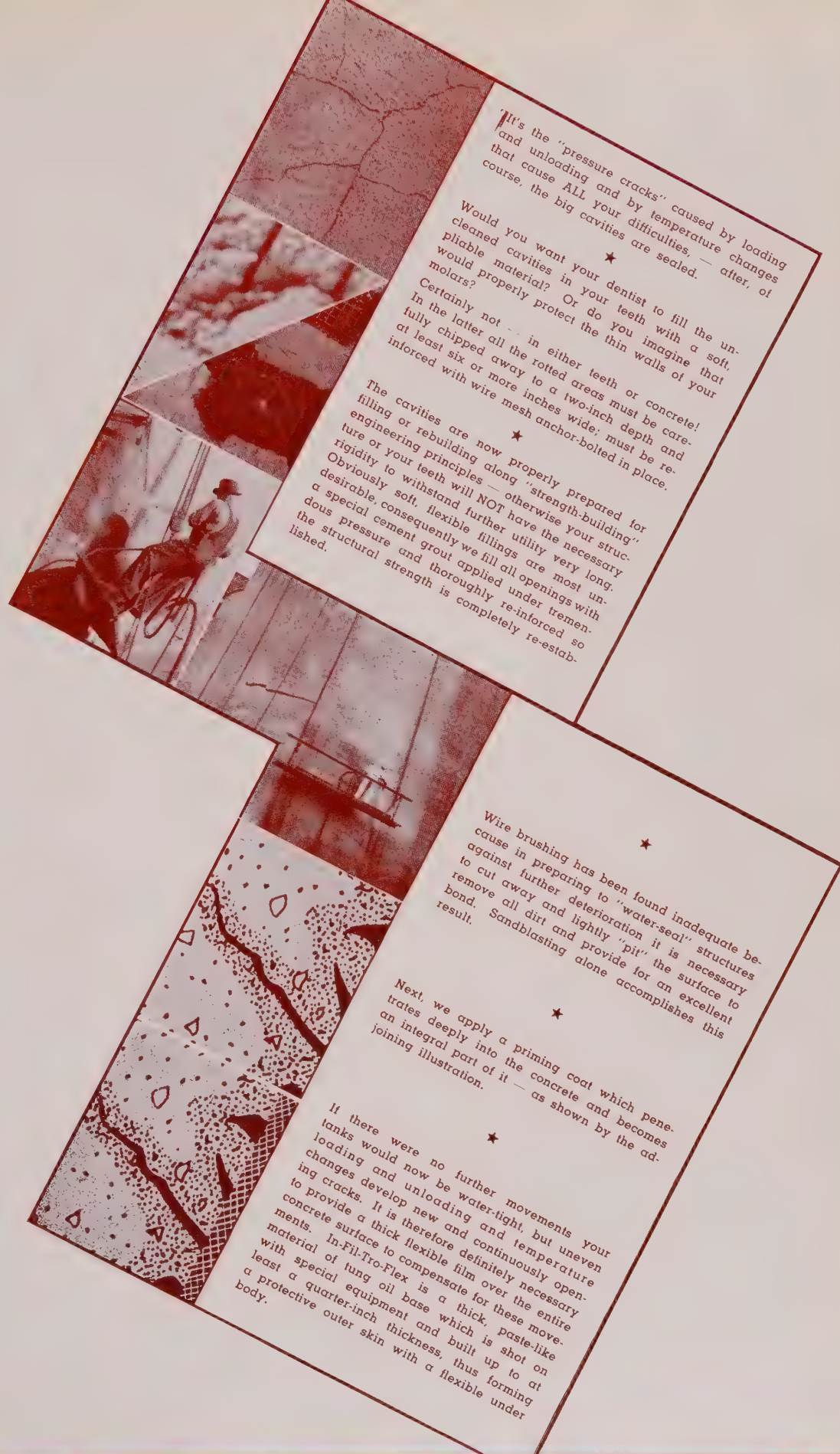
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eventually may even

use he's an expert and  
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skilled mechanics are  
ound. By having the  
ce we are enabled to  
ntrust your problem to  
most for your money!

your Dentist protect

ATE.



It's the "pressure cracks" caused by loading and unloading and by temperature changes that cause ALL your difficulties, — after, of course, the big cavities are sealed.

★

Would you want your dentist to fill the uncleaned cavities in your teeth with a soft, pliable material? Or do you imagine that would properly protect the thin walls of your molars?

Certainly not — in either teeth or concrete! In the latter all the rotted areas must be carefully chipped away to a two-inch depth and at least six or more inches wide; must be reinforced with wire mesh anchor-bolts in place.

★

The cavities are now properly prepared for filling or rebuilding along "strength-building" engineering principles — otherwise your structure or your teeth will NOT have the necessary rigidity to withstand further utility very long. Obviously soft, flexible fillings are most undesirable, consequently we fill all openings with a special cement grout applied under tremendous pressure and thoroughly re-inforced so the structural strength is completely re-established.

★

Wire brushing has been found inadequate because in preparing to "water-seal" structures against further deterioration it is necessary to cut away and lightly "pit" the surface to remove all dirt and provide for an excellent bond. Sandblasting alone accomplishes this result.

★

Next, we apply a priming coat which penetrates deeply into the concrete and becomes an integral part of it — as shown by the adjoining illustration.

★

If there were no further movements your tanks would now be water-tight, but uneven loading and unloading and temperature changes develop new and continuously opening cracks. It is therefore definitely necessary to provide a thick flexible film over the entire concrete surface to compensate for these movements. In-Fil-Tro-Flex is a thick, paste-like material of tung oil base which is shot on with special equipment and built up to at least a quarter-inch thickness, thus forming a protective outer skin with a flexible under body.

# RPORATION

30 N. LASALLE ST.  
CHICAGO, ILLINOIS



# CLEANING BARLEY for MALSTERS



By JAMES AULD

Hales & Hunter, Minneapolis, Minn.



The subject "Cleaning Barley," may to some of you, appear quite simple, but to those who are engaged in cleaning barley for malting it is not quite so easy. Barley run through a receiving separator, to take out most of the sticks, straws, corn, small seeds, etc., may pass as clean barley but a malster must be certain that it has little or no seeds, wheat or oats and that it is properly sized. He cannot make first class malt if he attempts to grow two sizes of barley together for one will in the course of events be overgrown, resulting in the loss of valuable converting power, and the other size will be undergrown, resulting in a large amount of glassy and flinty kernels.

During prohibition, and up to a year or so ago, the usual procedure was to run barley through a receiving separator, then through a set of needles to take out the small berries, and from there it would be sent to some of the cylinder disc machines to remove the oats, long type barley, and large wheat and seeds. The barley would then be run through a Ring Grader which would divide the grain into two or sometimes three grades. The No. 1 grade would then be ready for steeps.

## *Merry-Go-Round Process*

The grain dropping through the graders would again be sent through another Ring Grader equipped with a smaller opening, or a needle comb, and the larger separation of this split would be malted, and the balance used for screenings. Those machines, however, were not adaptable for removing all the broken kernels nor all the wheat and large seeds which when malted caused lots of trouble. The broken and skinned kernels will not all sprout and, owing to the temperature and moisture maintained in the malting compartments, would mold and cause serious chemical reactions in the malt. However there has been developed a number of separators of the indent type which will now take out all broken and cross grains, wheat seeds and oats, giv-

ing the malster grain that he can send to his sizing machines free from impurities.

While all of the methods already described for sizing barley are commendable and filled their purpose it resulted in the grain being subjected to a tremendous amount of handling, which meant that the hull of the barley was often very seriously injured. It is necessary to have a perfect hull in the grain going to the malthouse. This hull acts as a protector to the sprout and meat of the kernel and also acts as an anchorage for the rootlets which gather moisture and chemicals in the air, needed to perfect the conversion into malt.

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## IMPORTANT APPROACHING DATES

September 26-27. Grain & Feed Dealers National Association, Royal York Hotel, Toronto, Ont.

October 10-14. National Safety Council, Stevens Hotel, Chicago.

April 2-5. Society of Grain Elevator Superintendents, Milwaukee, Wis.

May 8-12. National Fire Protection Association, Chicago.

---

## *The Newest Grader*

Last year a new type of grader having certain exclusive features not found in the other types of graders described above, was placed on the market. We have been operating two sizes of these new graders over a period of several months. A large one is installed in our malting plant at Chicago and a smaller one at our malting plant located at Waterloo, Wisconsin. Several superintendents have asked us about this new equipment, particularly about the operation and how the separations are made, so perhaps a description of the machine would be of interest to all of you.

These machines have cylinders with special indents or corrugations in the cylinder shells. There are no openings

or slots in the metal of the shells and the rolling action of the cylinders makes them self-cleaning without the use of brushes or devices. Our machine at Waterloo has six cylinders and the one in Chicago has sixteen. At Chicago we divide normal malting barley into four distinct grades according to plumpness or thickness of the kernels, while at Waterloo our grader delivers three grades of barley. The number of cylinders in the machine determines the number of grades into which the barley can be divided and the capacity at which it is to be graded.

Both of our machines are equipped with aspirators which make a splendid air separation. This is one reason why they are better for our purpose than other types of graders we have used. Built into the aspirator is an ingenious feeder which will handle a stream of grain from a spout or from a bin and divide that stream uniformly between several rows of cylinders.

The grooves in the cylinder lift out the thinner kernels of barley and the larger or plumper kernels which have been rejected by the grooves are tailed out at the end of the cylinder.

The first, or top cylinder into which the barley stream enters does not complete any part of the separation but is used to divide the barley between the second and third cylinders of the series. The division depends largely on the class of barley being graded and also the size of the barley desired in the several grades. The thinner kernels are carried higher by the corrugations than those of the new larger diameter.

## *Uncanny Division*

By adjusting the level of the trough into which the thinner kernels are discharged, a position can easily be found where there are no kernels larger than a certain size lifted into the trough, and no smaller kernels below a certain size rejected with the large. This cylinder actually divides the barley into one generally large diameter grade and one generally thin diameter grade.



Because the kernels of each of these grades are more nearly of the same weight, the floating action of the thinner kernels nearly disappear in the separation that follows. This method of dividing the total quantity of the barley and concentrating the undesirable thin kernels in a small mass makes it easier to separate the thinner kernels. We don't know of any other type of barley grader which employs this principle.

The rejections of the top cylinder containing the generally thick barley and feed directly into the second cylinder for final grading between the **A** and **B** grades. The trough of this cylinder is set low enough to lift the **B** barley, yet high enough to reject all of the **A** grade. A higher setting of the trough will broaden the range in the size of the **A** grade, and a lower setting of the trough will narrow the range of this grade and raise the upper limits of the **B** grade.

The liftings of the top cylinder feed into a third cylinder where the **C** and **D** grades are removed from the balance of the **B** grade. By similar trough adjustments the split between the **B** grade barley and the thinner grades can be lowered or raised at the will of the operator.

The fourth cylinder, when used, takes the liftings of the third cylinder and divides them into **C** and **D** grades. In general, the trough of this cylinder is set sufficiently high to lift only the thin kernels which have no value for malting.

The flexibility of adjusting the upper and lower limits of any grade is of much importance to the malster.

### Points For Supers

We have every reason to believe that these machines will have long life with low maintenance because they are constructed entirely of steel with all important bearings of the ball bearing type. Considering the capacity and the number of the grades of barley which can be made with one handling, these machines occupy no more space than any other type of grader, and aside from the needle stand, require less power to drive them.

The barley flows through the machines with gentle sliding motion and with very little fall. There are no sharp edges to injure or skin the barley and therefore the grading process is accomplished with little shrinkage and at low expense.

I would suggest that those among you who handle barley, endeavour to get your employers to allow you to do a better job in cleaning your barley before

shipping to market. In a recent test we removed 750 bushels of wheat and seeds from 12,000 bushels of barley. This represented a freight charge of \$45. My contention is that if wheat and seeds were taken out at the terminals the owners could salvage for themselves what they are now donating to others.

I would also suggest that as far as possible, barley grown in different parts of the state be kept separate because different treatment is required when they are used for malting.

Skol! Prosit!!

### PROPHESIES ACID TEST

Mr. Evans wrote a tip-top article on the adulteration of corn, covered the subject nicely and brought up some extremely interesting points to consider.

I think the whole thing is going to result in the requiring of an acidity test on inspection of corn. Have been wondering what was coming next ever since the moisture meters were rammed down the elevators' strep throats, but it now looks as though my wondering days are over . . . until next time . . . Heil, Wallace!—Bloofer.

## Weevil - Moth and Other Insects Weevil Odor, Insect Heat Hollow Berries and Lowering of Grade



### Wipe them ALL Out!

Cut that heavy tax on your Incoming Grain.  
Rout the Bugs so they can't come back.

The **COST IS NOMINAL**—and the job is effective, when you use **LARVACIDE** according to directions.

Have **CLEAN STORAGE BINS**—Treat each bin bottom with **LARVACIDE**—a quart or less . . . Then there'll be no insects carried over to infest your new grain.

**STOP INFESTATION FROM OUTSIDE**—Treat incoming grain—every fifteen minutes—onto grain stream. A little extra on first and last hundred bushels. Then it will be Heigh, Hi Ho—where did those weevil go?

With **LARVACIDE** it's **A ONE TIME JOB**. No eggs to hatch out and no expensive frequent turnings. Economical—effective—and safer too, because **LARVACIDE** warns your men—drives out all not protected by mask, before harm can be done.

**NO SPECIAL EQUIPMENT** needed. No fire or explosion hazard. Write for 42 pp. illustrated Manual **SAFER FUMIGATION**.

To Overcome  
**WEEVIL INFESTATION**  
in  
**COUNTRY ELEVATORS  
and FARMERS' BINS—**  
write us for instructions

BEST  
FISHING  
OF  
THE YEAR  
is still ahead.

Remember, with  
**LARVACIDE**  
it's

**LESS Time on INSECT CONTROL  
MORE Time to go FISHING**



# Larvacide

CHLORPICRIN

## INNIS, SPEIDEN & CO.

Established 1816

117 Liberty Street, NEW YORK

BOSTON • PHILADELPHIA • CHICAGO • CLEVELAND • KANSAS CITY



# GRAIN ELEVATOR *Safety* THROUGH

*Complete*

**DUST  
CONTROL**

*Installations*

**FURTHER DETAILS**

*from*

**ALFRED C. GOETHEL CO.**  
2337 NORTH 31st STREET  
MILWAUKEE, WISCONSIN  
**MANUFACTURERS....ENGINEERS**

## THE BEST INVESTMENT!

If a man over forty is reliable in proportion to his age and has mellowed with the years, he is likely to be the best investment a corporation ever made.—Royal F. Munger in *Chicago Daily News*.



## TANK FARMING

"It's being done," says PERCY POULTON, N. M. Paterson & Company, Ltd., Fort William

At the time Professor Savage spoke before the Superintendents' convention in Fort William-Port Arthur, mention was made of the water-trough system of raising grains.

The University of California at Berkeley has recently issued an exhaustive 16-page pamphlet on this subject that will be of interest to everyone having heard the discussion on this pertinent topic.

While it is highly improbable that tank farming will come into wide-spread use by the majority of the metropolitan populations now consuming the vast tonnage of grains moving eastward every hour, still it will not be amiss to have every bit of information at one's fingertips.

Hope the rest of the Supers liked the July and August numbers of "GRAIN" as well as I did.

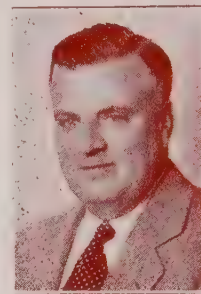


## OH! VALOR-BREEDING CORN BREAD!

O mighty Mussolini, dark-browed contemner of democracy, unswerving inquisitor of individualism, tetrarch of totalitarianism! Hast thou not, O Great One, albeit unwittingly, missed the boat?

Lo, from Italy has even now winged the news that thou, organizer of military might, hast rebuked thy folk who murmured against the new coarse bread. Thou hast proclaimed that this doughy substance—that which is made from 20 per cent corn flour—creates and nourishes the vigor to make thy legions invincible and inextinguishable.

Knowest thou not, O Olympian One, that for generations the Americans, benighted followers of individualism, derived from corn bread the sustenance which enabled them to open up the wilderness, scatter the Indian tribes, cause the fields to flourish, and build thriving cities? It would therefore seem, O Cloud Gatherer, that even thy fascist warriors must at last return to the stuff wherefrom democracy has won its triumphs.—*Chicago Daily News*.





## SPRING WHEAT PEAK

Reports HOLLIS GRAVES  
Capitol Elevator Company, Duluth

An all-time August record of more than 29,400,000 bushels of grain, including 14,800,000 bushels of wheat, were shipped to Duluth. With the biggest wheat crop since 1932 harvested in the four Northwest states this year—60,000,000 bushels larger than last year—the peak of the spring wheat movement has doubtless been reached.



The Prairie Provinces to the north are just getting into their stride with a bumper crop up there. Hear the boys are plenty busy.



## GRAIN EXPORTS SOAR

Grain exported from Atlantic ports increased from \$18,600,000 in the first half of 1937 to \$142,400,00 in the first half of 1938.



## LATEST MODEL TENANTS

Says ED FRAUENHEIM  
Buffalo Forwarding Corporation

I see by the papers that termites in Adams County, Ohio, got fed up on their customary diet of rafters and beams and took a "flier" in corn.

I presume the next step will be a dandruff remover for the little dears, or has it been "planned that way?"



## BETTER POKER PLAYER

Secretary of Agriculture Henry Wallace will have to concede that Mother Nature is a better poker player than he.



## ON THAT SPLASH BOARD

By BILL COUFIELD

Perhaps the most satisfactory splash board for aerating a stream of grain in the track shed is made of several grain doors placed directly in line with the spout, which doors have innumerable nails pounded therein to divert the stream of grain in all directions. Instead of a 12-inch stream this arrangement spreads it out so one will have a 40-inch spray.

## EASTERN SUPERS TO TORONTO

Says JIM SHAW, Port McNicoll

Please serve notice on all Supers from Detroit, Toledo and Buffalo eastward to join with the Ontario and Quebec Supers at a chapter formation meeting to be held in conjunction with the Grain & Feed Dealers National Association. Time and place will be the Royal York Hotel, Toronto, September 26th.



Following Jim Mackenzie's suggestion I've arranged an all-day program. Everyone I've talked to lately is now planning to attend.

"Go ye and do likewise!"



## JAMES A. RICHARDSON WELCOMES F. D. R.

James A. Richardson, world-renowned head of the grain business bearing his name, Chancellor of Queens University at Kingston, Ontario, presided at the convocation held especially for conferring a Doctor of Laws degree on President Franklin Delano Roosevelt.



## "MAY I QUOTE YOU AS SAYING . . . ?"

Or to simplify that caption we might say "Quotes," a new book interesting to grainmen who are considering the purchase of grain cleaning equipment, has just been published by the Hart-Carter Company, Minneapolis.

The flexibility, accuracy, capacity, seed cleaning, operating costs, service and repairs of this 18-K line are widely attested to under all sorts of working conditions and, while the reports were anything but hand-picked, users award it undisputed supremacy.

Terse, cleverly and amusingly illustrated, this attractive booklet adds materially to the store of knowledge one might wish to have accessible on this important subject. Like Madame's dress, you know, long enough and short enough, its a mistake not to write the company for your copy—of the booklet, not the dress.



## SEZ ZEKE WISEACRE:

*The saddest mistaken feller in the world is the super who figgers he's saving money by letting repairs go. Before he knows it, HE goes!*



# Super Scoops

## BREAK 400 MARK

We heard it rumored that the Elevator Superintendents' Association had broken through the 400 membership mark so we set our best sleuth on the trail to get this full information:

397—A. C. Johnson, Kansas Elevator Company, Topeka;

398—Oscar Bergsmark, Ladish-Stoppenback Malt Company, Jefferson Junction, Wisconsin;

399—Vincent A. Shea, St. Anthony Elevator, Central Elevator Company, Minneapolis (By James Russell).

400—D. W. Heyward, "Grain," Chicago;

401—Russell G. Davis, Chain Belt Company, Milwaukee (By Russell Maas);

402—C. P. May, Crete Mills, Crete, Nebr., and

403—Lloyd G. Burmeister, L. Burmeister Company, Milwaukee (By Russell Maas).



## BUSY PROGRAM

We are all having a very busy program at the elevators and a heavy movement of corn. The new crop will be on us shortly and it looks like a bumper.

Cecil Blair, an honorary member of the SGES and Manager of the Peavey interests in Duluth, has resigned due to ill health and Harry B. Stoker is our new Manager. He has been with Van Dusen-Harrington for years, is very aggressive and bound to go places.—Oscar W. Olsen, Duluth.

## CORN GROWS IN WALLS

Botley, England: Hundreds of ears of corn are growing from the living room walls of a bungalow owned by Thomas Luxton, a retired farmer. Builders are mystified and are unable to stop the growth.  
—The Force.

## SOME SPEED

*The record time in which wheat has been made into biscuits was achieved by four Kansans a short time ago. With their kitchen set up in the field, they took the wheat from a moving threshing machine, ground it into flour, mixed the batter and baked a pan of biscuits in twelve minutes.*

## BIRTHDAY COLUMN

Dear Mr. Editor:

Inasmuch as so many of us are well acquainted with one another through our Association, I believe it would be a capital idea if "GRAIN" were to carry a birthday column showing in advance when each one of the boys chalk up another year.

And here's "the opener" for the column:

*Henry P. W. Keir, Wabash Elevator, Bartlett Frazier Company, Chicago,—June 20th.*

Couldn't the boys send in their birth dates on the post cards included in each copy of "GRAIN"? —E. J. Raether, Rosenbaum Brothers, Omaha.

*Note: Certainly grand thought and we'll do our part if our readers will send in their birth dates—month and day is sufficient—on the card enclosed with this number of "GRAIN." Do it now, and should you note items in which you are interested on this same card then check them, too.—Ed.*

## INDUSTRIAL POWER TRANSMISSION

By Wayne Davies, Chicago

Copies of Robert W. Drake's "Industrial Power Transmission" will be available to members of the Superintendents' Association through the Secretary's office after we can determine the probable demand for them. This text originally sold for \$25 per copy.

## CROP IMPROVEMENT SECRETS

"The first move in any crop improvement program is to develop and expand the wheat quality testing program," Harry R. Clark, Chief Inspector and Weighmaster of the Omaha Grain Exchange, told the Supers attending a recent Chapter meeting. Harry is quite active in the newly formed Nebraska Grain Improvement Association and is a member of the Executive Committee.

"We will plant wheat from one hundred different farmers in each of the twenty-one selected counties and in addition plant all the recommended varieties that the Agricultural Experiment Station has. With the assistance of the Agricultural College we will also plant a master test plot at Lincoln containing wheat from 2100 farmers co-operating over the state.

Next summer we will hold meetings out on each of these field tests. Each farmer will know the number of his own wheat but not his neighbor's wheat, therefore we will not embarrass anyone. The farmer who has a good milling wheat free from mixture will be graded "A", whereas a farmer with a poor milling wheat containing rye or other mixtures will be graded "C", and medium wheat will be graded "B".

These plots that we are planting in the twenty-one selected counties in the state are similar to the Canadian Crop Testing plan which has been used in Canada with a great deal of success. Our neighboring state, Kansas, had twenty-five of these plots last year and at the demonstration days the latter part of June had very fine crowds in each county.

All grains are slated to be improved in turn.



## PHOTOS WANTED

● Sharp, clear photographs of grain and processing plants, along with interesting high lights relative to same, are much coveted.



# RESTORATION & MAINTENANCE COMPANY

## CONSULTANTS - ENGINEERS

332 SO. LA SALLE STREET

CHICAGO, ILLINOIS

Phones: HARRison 5628

### RUBBER PROTECTION

Rubber, sprayed, dipped or painted on metal, concrete or wood, today offers the most modern, safest, cheapest and long-lived protection against leakage, breakage, abrasion, absence of insulation or excessive wear. Indispensable in current dust explosion prevention developments for hopper bottoms and chutes, insides and outsides of boots, scales and scale hoppers, spout elbows, within dust collectors, on tripper chutes, etc., we invite your correspondence looking towards satisfactorily solving your problems.

### ORGANIZATION

This organization has departments qualified to inspect your properties and to make reports and recommendations for the correction of the many deficiencies found in the masonry, steel and concrete field.

### FOUNDATIONS UNDERPINNING

We are prepared to inspect and make reports on shoring, moving, underpinning and the placing of new foundations under existing structures.

### CONCRETE RESTORATION

In the field of concrete and masonry restoration, a number of materials and methods are available, the question being which method will correct the immediate trouble and prolong the life of the structure within economic limits. The approach to these problems of restoration should be analyzed carefully with the owner or manager of the property.

### WATERPROOFING

Waterproofing of concrete and masonry structures can be accomplished by numerous methods. Here, again, the particular problem to be met, the money available and the thoroughness of the desires of the operator govern the use of a particular product and procedure.

### HIGH PRESSURE LEAKS

The correction of high pressure leaks, found in shafts, tunnels, deep foundations and dams, can be accomplished quickly and within a reasonable cost. An inspection of the structure will determine the procedure and time required.

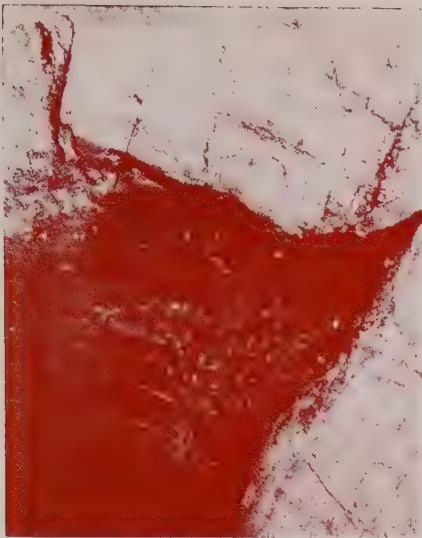
### PROTECTIVE TREATMENTS OF METALS

For the protective treatments of metal we can recommend or have developed materials and methods to meet nearly all aggressive agents found in the industrial field.

### STRUCTURAL ALTERATION

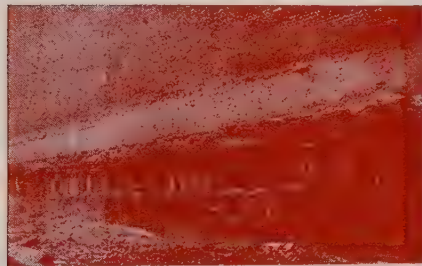
Our engineering department is available to analyze and make reports for structural alterations of buildings. This department is in a position to redesign and advise the best methods of alteration.

**Write, phone or wire "R & M" today. You'll be glad you did.**



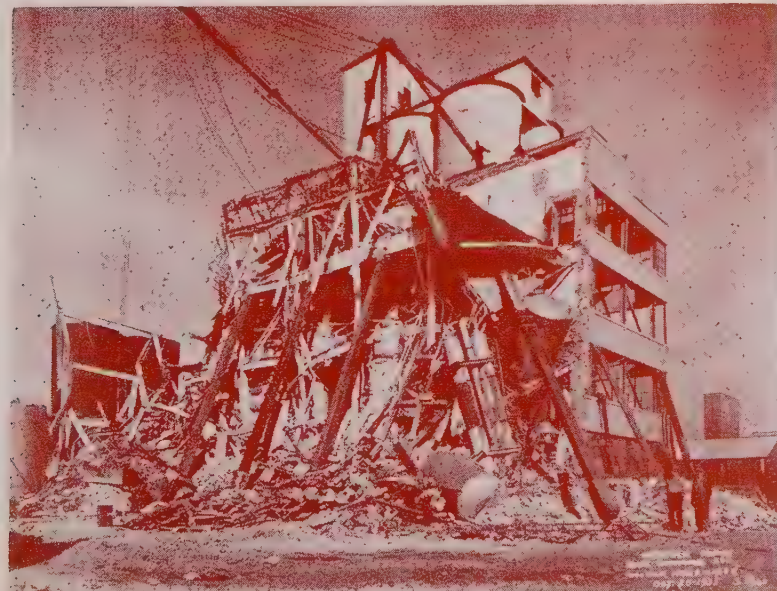
Concrete restoration and waterproofing, perhaps the most widely suffered structural ailment about which the layman knows the least, is another point of vantage of dealing with our consulting engineer.

★



Foundation underpinning, structural alterations and high pressure leaks must be thoroughly and exhaustively planned for and their execution or correction meticulously engineered for lasting satisfaction.

★



★

Protecting against further damage is a science in which another of our departments specializes without a peer.

★



Settling and movements can very definitely be arrested—just as was done in the Malt-house pictured above.



# Chicago Chapter Program

C. J. Alger, Chicago Office Manager of Corn Products Refining Company and President of the Chicago Chapter of the Superintendents' Society, announces that their Executive Committee has decided on the following program for this group for the coming year — the meetings to be held on the first Tuesday of each month as heretofore:

October 4 — Trip through Argo Plant of Corn Products Refining Company on which all Managers are to be included;

November 1 — Inspection tour through Post Products Plant, Kankakee, Ill.;

December 6 — Visit through Lever Brothers vegetable oil plant; Roby, Ind.; Christmas party and Associates' night;

January 10 — Joint meeting with Milwaukee Superintendents;

February 7 — Roundtable, with scheduled talks by members;

March 7 — Maintenance, personnel work, possible occupational diseases;

April 4 — Society's Ninth Annual Convention in Milwaukee, 2nd-5th;

May 2 — Trip through soy bean plant, and

June 6 — Roundtable, members' talks, election.

A unique plan for stimulating attendance was announced by President Alger. He, with Vice President William T. Husband of E. R. Bacon Grain Company and Secretary B. P. Kline of Hales & Hunter will compete both for new members and their attendance — as well as that of the divided membership — with the three past presidents, Bill Gassler of Rosenbaum Brothers, Henry Keir of Bartlett Frazier Company and Gilbert Lane of Arcady Farms Milling Company. A lively and successful contest is anticipated.

## ARGENTINE CHAPTER IN OFFING

In view of the number of terminals being erected in Argentine and knowing of the urge of many to "pioneer" their trade in a newer land, one "joker" suggests that plans be made now for a chapter down there.



### WHY UNCLE WEEVIL!!!

Nephew: Why does that woman blacken her face?

Uncle Weevil: She doesn't; she's a Negress and that is her natural color.

Nephew: Is she black like that all over?

Uncle W.: Why, yes.

Nephew: Gee, Uncle, you know everything, don't you!



## DULUTH SUPERS AT WORK



The trouble with this younger generation these days is they don't keep their nose to the grindstone.—Courtesy Chicago Daily News.

## E. C. CHRISTENSEN DIES

E. C. Christensen, Superintendent of the Monarch Elevator Company's elevator in Minneapolis for fifty years until his retirement a few years back, passed away on August 17th at the age of 83.

A native of Denmark, Mr. Christensen was the proud father of Paul, well known President of the Minneapolis Chapter of the Superintendents' Society, who succeeded his father at the "Monarch." In addition Mr. Christensen leaves two daughters, four sisters and two grandchildren.

Our sympathies are extended to them in their bereavement.

## SAFETY MANUAL OUT

Our major project in accident prevention this year is the preparation of a Safety Manual that will be of value to all Supers, foremen and other key men in the various grain and grain processing plants. A preliminary draft of this manual is now in the hands of a special committee and when they have made their various reports it will be rewritten and printed—if funds are available.



OSCAR OLSEN

That is another reason why we are anxious to have you enter the Safety Contest as soon as possible. Your fees will not only help to carry on the regular work in connection with the contest, but will also provide a surplus which can be used to defray part of the expense of other pertinent undertakings.—Oscar W. Olsen, Peavey Duluth Terminal Elevator Company, Duluth, Chairman.



## Lawful Prey

*There is nothing in this world that some man cannot make just a little WORSE and sell a little CHEAPER, and — the people who consider price only are this man's lawful PREY.*

*There is no use trying to sell unless and until you not only have something better to sell than the next man, but can also give a good reason why what you have is better.*

## Omaha Chapter Busy

A good deal of time was devoted to discussing dust explosions, their causes and preventative measures, at one of the most interesting meetings yet held, reports C. H. Kenser, Wheat Buyer and General Superintendent of the Omar Mills and active Secretary of the Omaha-Council-Bluffs Chapter of the Superintendents' Society.

Federal Grain Supervisor Nelson headed the program with a great deal of information on Federal grain supervision, dual inspection certificates, inter-market grain inspection, etc., "and we are sure we all will be able to co-operate better in the future," Secretary Kenser believes.

October 11th the Chapter will make an extensive trip through the Nebraska Power Company's plant, accompanied by our electricians, out of which we all feel considerable new knowledge will be acquired. Like the Chicago Chapter we are especially urging our Managers and Owners to join us at our meetings.



## JUST RUINED

"Why won't you advertise?" asked the canvasser of a man in a small way of business.

"Because I'm against advertising," the man answered.

"But why?"

"It don't leave a man no time," was the reply. "I advertised once last year and the consequence was I was so busy I didn't have no time to go fishing the whole summer."—Exchange.



*It's Rumored From K. C.*



"Let's see, now, Ed was three on the green and two putts—that makes five and the sunstroke is six."—Courtesy Chicago Daily News.



## SANDY'S THE EDITOR

I received the copy of your magazine and read it with much interest. Want to compliment you on the nice book that you are putting out and I must add that you are a fine editor.—Fred J. Holtby, Vice President T. E. Ibberson Company, Minneapolis.



## BUST IN MOUTH

One laborer was holding a shaft while the millwright was wielding a sixteen pound sledge to drive a sleeve off the shaft. The millwright hit the sleeve a glancing blow and the sledge hit the laborer in the mouth. His lips were cut and several teeth were loosened. Later several of his teeth had to be extracted and a partial plate furnished for upper and lower jaws. The sledge used in this case was in good condition, and the men had been cautioned to use extreme care.

## IN CODE

From Jim Hayhoe, Minneapolis

"Umbrage vaht trumpet burthen leam attire autograph attraction shun sickly. Rolly."

And what do you make of that Watson? Translated into our language, it means —

"First samples of the new crop exhibited here today 2:15 P.M. The yield, both as to quality and quantity, is very satisfactory, 8½ official weight, white and sweet, prime condition, very good article, the best that could be done, particulars by mail. Rolly."

Otherwise, a baby girl to Mr. and Mrs. Rolly Wilson.

— Cargill News



## MANNING'S HAT

Kansas City's Ex-Chapter President, Mr. T. C. Manning of Uhlmann Grain Company's Wabash Elevator, offered a Stetson hat to the local member who would turn in the most applications — and so far it's been nip and tuck all the way and the result has always been a tie.

Now he announces that he has again extended the contest dead-line until perhaps convention time and will award that prized Stetson even if he has to draw straws to determine the winner . . . Looks as though the membership will hit the 400 mark or better soon.



## THANK YOU, SUH

Passenger: "Did you happen to find a roll of bills under my pillow?"

Pullman Porter: "Yes, suh, thank you. suh!"



## STANDING ASSOCIATES' COMMITTEE

T. C. MANNING

I believe it would be better all the way 'round if our Association had a standing Associates' Committee composed of the chairmen of each committee where we have chapters, plus several residing in other centers, and would like to hear from other members about this idea.

Grover Meyer, Kansas City Power & Light Company; Gilbert Schenk, Weevil-Cide Corporation, and John Heimovics of Great Western Manufacturing Company—the capable committee that handled the details of our recent national convention—have agreed to serve for our district, so let's get the ball 'rolling.—T. C. Manning, Uhlmann Grain Company, Kansas City.

A HOT SPOT  
Eventually means  
A HOT BIN!

Why  
TAKE CHANCES

use

Weevil-Cide  
The  
DEPENDABLE  
GRAIN FUMIGANT

AND BE  
Sure!

Write for prices or,  
better yet, order this  
positive protection  
TODAY

The  
WEEVIL-CIDE  
COMPANY  
1406 W. 9th street  
KANSAS CITY, MO.



# Predicts New Dawn

I am not one of those found in associations other than this who share the thought that members owe nothing to the association. On the contrary I feel that every member is morally obligated to be more than just "a member." For that reason, though today I am retired — no longer an active superintendent, I urge each of you to pledge himself to give just ten minutes of concentrated thought each month to the welfare of our Society.

To me, having gone through the primitive mistakes of years ago—the growing pains of early adolescence that every infant association suffers — our Society today offers superintendents of all ages, inclinations and phases of occupation in this broad grain and grain products industry a brilliant testing ground, a parallel to the "park" distributor on an automobile, a gateway to more rapid individual growth and a straight channel towards greater intrinsic worth to our employers. And in saying that, I realize that to some it may sound that I am leading up to the



HENRY COX

## THE HOUSE THAT "JACK" BUILT

In far away Neudorf, Saskatchewan, Canada, resides a young man named John Piller who has achieved nation-wide fame as a result of a hobby. Living in the heart of one of the richest agricultural districts in the world, John naturally turned to something agrarian in picking out an avocation. He set his hands to do something with grain that was out of the beaten path—and the result of his enterprise has brought him recognition in a startling manner. For John built a model elevator of grain—and put Neudorf on the map.

The House That "Jack" Built is but twenty-eight inches in height—constructed of grain. The walls are made of oats, the roof of wild oats and the doors built of wheat, rye and barley. The model is built to scale and shows a surprising fidelity to detail.

subject of salaries, — but far be that from correct for that is ONE thing that is absolutely taboo within this group and everyone so understands it.

### New Dawn For Industry



The grain handling industry is perhaps in its infancy if we are to believe today's scientists. There is no reason why the horizon of tomorrow should not be of the ruddiest hue yet seen. I believe it will be, and along with it will come new developments, money-making ideas for your firms, more complex technical problems — and, considering the staunch caliber of our growing membership, we are developing the correct vehicle for solving every perplexity that arises.

Car dumpers will be a fixture in the elevator of tomorrow. Grain handling and shipping will be the work of expert technicians and research chemists. Processing of dust will doubtless be common as also will other means of promoting the consumption of grainstuffs. Our elevators and processing plants will specialize and with this evolution our problems will multiply.

A firm footing now spells smoother sailing in later years. A word to the wise is sufficient — Make your association your "proving" ground.

Yes, gentlemen, you and I both owe much to this association. Let's keep this in mind and "work" at the thought!


## THE POCKETBOOK of KNOWLEDGE BY TOPPS

THERE ARE MORE PEOPLE MAKING MACHINES TODAY THAN WERE ENGAGED IN ALL MANUFACTURING 100 YEARS AGO!

### LIGHTNING RODS FOR UMBRELLAS

WAS THE INVENTION OF THE 18<sup>TH</sup> CENTURY FRENCH INVENTOR, BARBEU-DUBOURG. THE "ROD" CONSISTED OF A METAL CORD SUSPENDED FROM THE UMBRELLA, AND WHICH TRAILED ALONG THE GROUND. (IN 1778, IN PARIS, FASHIONABLE WOMEN HAD SIMILAR LIGHTNING CONDUCTORS ATTACHED TO THEIR HATS.)




FARMERS OF OSTUNCALO, GUATEMALA, HAD TO DIG THEIR 1902 CORN CROP FROM THE GROUND! (THE FIELDS HAD BEEN COVERED TO A DEPTH OF OVER 4- FEET WITH VOLCANIC SAND FROM THE NEARBY SANTA MARIA VOLCANO.)

### ON THE UP AND UP!

Year	Percentage
1850	38%
1909	54%
TODAY	66.5%

IN 1850 APPROXIMATELY 38% OF THE NATIONAL INCOME WAS DISBURSED IN WAGES AND SALARIES... BY 1909 THE FIGURE INCREASED TO OVER 54% - AND TODAY 66.5% OF THE NATIONAL INCOME IS DISBURSED IN WAGES AND SALARIES (HIGHEST PERCENTAGE ON RECORD)



A 30-FOOT PERISCOPE IS AN OFFICIAL GOLF ACCESSORY ON THE ABERDOVY LADIES CLUB COURSE IN NORTH WALES. PLAYERS USE THE PERISCOPE ON A "BLIND" HOLE TO SEE THE GROUND 165 YARDS AWAY WHICH IS OBSCURED BY A HILL



## FRED HOOSE RETIRES

Reports FRANK McDERMOTT,  
Norris Grain Company,  
Kansas City, Mo.

Mr. Fred Hoose, head of the Norris Grain Company's Kansas City branch since 1911 as well as Vice President and Treasurer of the Company, a past President of the Kansas City Board of Trade and an ardent supporter of and ofttime speaker before the Superintendents' Society is retiring—much to the regret of the trade here.

Well known throughout the land, Mr. Hoose is held in highest esteem by all, was noted for his wit and humor as well as his astute approach to any undertaking he wanted to surmount.

Entering the grain business himself the hard way—as a Super of the Santa Fe elevator at Winfield, Kansas—Mr. Hoose's recitation authored for the February 1938 number of "GRAIN" is a masterpiece that will be long remembered and often referred to.

"Good luck, Mr. Hoose, and here's a toast to your health and happiness, and may the grain trade councils—and the Superintendents' Society in particular—be graced with your presence and guidance for many years to come!"



## SOME DIFFERENT

"Running a mill elevator is quite different and has a number of features that do not exist in most terminal houses," writes J. L. Brown, Superintendent of the Larabee Flour Mills elevator in Kansas City. "We have bake tests on every bin in the house, and then blending a number of these bins together we obtain a specified test weight, protein, ash, moisture, loaf volume, grain, crum color, puffing time and several other specifications that the baker demands.

"So I'm looking for an automatic sampler that will take a positive average sample at the triper rather than to leave it to a scoop or pelican — which is not at all satisfactory in a modern mill elevator. We must have a sample of each 1,000 bushels or less from a 20,000 bushel stream."



## DIED IN FOUR MINUTES

Delbert Davis, 21, died within four minutes after he descended into a bin to clear a clogged chute. As he started to clear the mouth of the chute, the grain suddenly shot out, burying and crushing him beneath tons of it.

# Attend the NATIONAL SAFETY CONGRESS

at

# CHICAGO

OCTOBER 10th - 14th



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Reasonable Rates  
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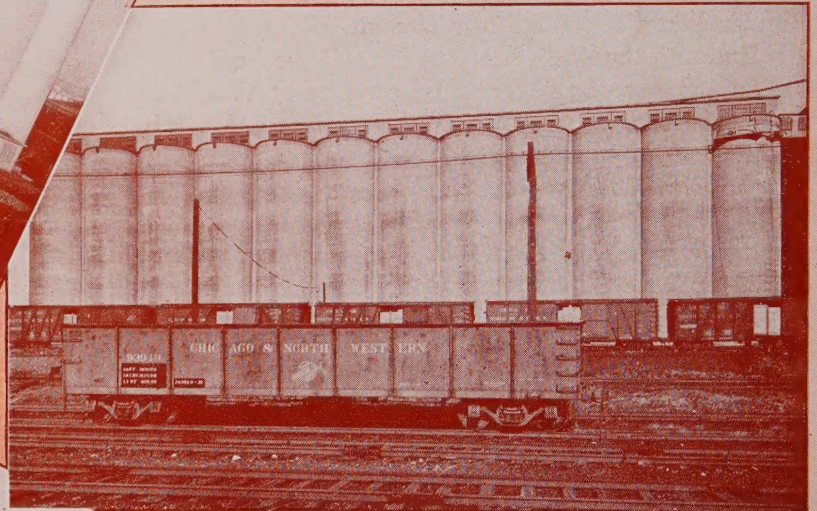
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will attest to the un-  
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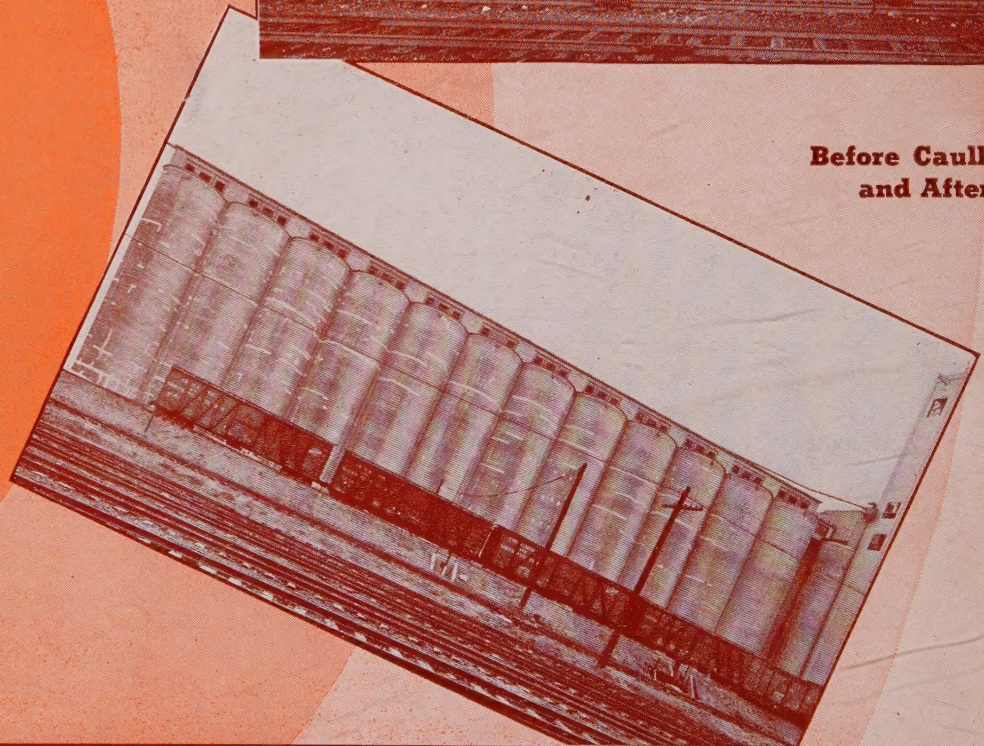
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